CLAIMS

1. A wiring board comprising:

a core layer made of a carbon fiber material and a resin composite containing inorganic filler, the core layer including a first surface and a second surface opposite to the first surface;

a first wiring portion provided with an insulating layer formed on the first surface of the core layer and with a wiring pattern formed on the insulating layer; and

a conductor extending in the core layer in a normal direction of said surfaces of the core layer, the conductor being electrically connected to the wiring pattern.

2. The wiring board according to claim 1, wherein the conductor extends throughout the core layer.

3. The wiring board according to claim 1, further comprising a second wiring portion provided with an insulating layer formed on the second surface of the core layer and with a wiring pattern formed on this insulating layer, wherein the conductor is electrically connected to both the wiring pattern of the first wiring portion and the wiring pattern of the second wiring portion.

4. The wiring board according to claim 1, further comprising an insulating film for insulating the

conductor from the core layer, the insulating film enclosing the conductor in the core layer.

5. The wiring board according to claim 1, wherein the first wiring portion comprises a plurality of insulating layers and a plurality of wiring patterns stacked alternately with the insulating layers, and wherein at least one of the insulating layers is formed with a via for electrically connecting adjacent wiring patterns.

6. The wiring board according to claim 1, wherein the core layer has a first thermal expansion coefficient in said normal direction, the first thermal expansion coefficient being in a range of 20~120ppm/°C at 25°C.

7. The wiring board according to claim 1, wherein the core layer has a second thermal expansion coefficient in a surface-spreading direction transverse to said normal direction, the second thermal expansion coefficient being in a range of 0~17ppm/°C at 25°C.

8. The wiring board according to claim 1, wherein the carbon fiber material is in a form of mesh, cloth or nonwoven fabric.

9. The wiring board according to claim 1, wherein the core layer contains 30~80vol% of carbon fiber material.

10. The wiring board according to claim 1, wherein the inorganic filler has a thermal expansion coefficient in a range of 1~20ppm/°C at 25 °C.

11. The wiring board according to claim 1, wherein the inorganic filler is made of one of silica, alumina, magnesium hydroxide, aluminum nitride and aluminum hydroxide.

12. The wiring board according to claim 1, wherein the resin composite contains 5~50wt% of inorganic filler.

13. The wiring board according to claim 1, wherein the inorganic filler comprises inorganic particles having an average particle size not greater than 10μm.

14. The wiring board according to claim 1, wherein the resin composite comprises one of polysulfone, polyethersulfone, polyphenylsulfone, polyphthalamide, polyamide imide, polyketone, polyacetal, polyimide, polycarbonate, denatured polyphenylene ether, polyphenylene oxide, polybutyrene terephthalate, polyacrylate, polyphenylene sulfide, polyether ether ketone, tetrafluoroethylene, epoxy, cyanate ester, and bismaleimide.